

Table 1. Relationship of the SAB framework ecological attributes to GISST criteria. (P) indicates the GISST criterion is provisional.

<b>LANDSCAPE CONDITION</b>			
<b>Category</b>	<b>Subcategory</b>	<b>SAB example measure</b>	<b>GISST criterion</b>
Extent of habitat types		perimeter-area ratio	habitat fragmentation, patch area (P), TEAP Diversity
Landscape condition		number of habitat types	landscape texture (P), wildlife habitat TEAP Diversity, TEAP Composite
Landscape pattern		contagion	aggregation index (P), TEAP Diversity, TEAP Composite
<b>BIOTIC CONDITION</b>			
Ecosystems & communities	community extent	extent of successional state	TEAP Diversity (Kuchler)
	community composition	presence of focal species	Protected habitat (P), TEAP Rarity

Category	Subcategory	SAB example measure	GISST criterion
Species & populations	trophic structure	feeding guilds	TEAP Rarity (taxonomic richness)
	community dynamics	predation rate	NONE
	physical structure	tree canopy height	TEAP Sustainability (Kuchler)
	population size	density	NONE
	genetic diversity	degree of heterozygosity	NONE
	population structure	age structure	NONE
	population dynamics	dispersal rates	NONE
	habitat suitability	focal species requirements	Combination of GIS layers
Organism condition	physiological status	hormone levels	NONE
	symptoms of disease	tumors, lesions	NONE
	signs of disease	tissue burden of contaminants	TRI weighted Air/Water releases

#### **CHEMICAL AND PHYSICAL CHARACTERISTICS**

Nutrient concentrations	Nitrogen	conc of N	Water Quality (STORET data)
	Phosphorus	conc of total P	Phosphorus budget
	other nutrients	conc of Ca, K, Si	NONE
Trace inorganic & organic chemicals	metals	Cu, Zn in sediment	NONE

Category	Subcategory	SAB example measure	GISST criterion
Chemical properties	trace elements	Se in water and soil	NONE
	organic compounds	methyl-Hg	NONE
	pH	pH in water & soil	NONE
	dissolved Oxygen	DO in streams	NONE
	salinity	conductivity	NONE
	organic matter	soil organic matter	NONE
	other	buffering capacity	NONE
Physical parameters	soil/sediment	temperature, texture	soil permeability, aquifer/geology ranking
	air/water	concentration of particulates	ozone nonattainment
<b>ECOLOGICAL PROCESSES</b>			
Energy flow	primary production	tree growth	NONE
	net ecosystem production	CO <sub>2</sub> flux	NONE
	growth efficiency	carbon transfer	NONE
Material flow	organic C cycling	organic matter quality	NONE
	N & P cycling	N-fixation capacity	NONE
	other nutrient cycling	input/output budgets	NONE

## HYDROLOGY & GEOMORPHOLOGY

Category	Subcategory	SAB example measure	GISST criterion
Surface & groundwater flows	pattern of surface flow	water level fluctuations	NONE
	hydrodynamics	water movement	NONE
	pattern of groundwater flows	depth to groundwater	Groundwater probability
	spatial salinity patterns	surface salinity gradients	NONE
	water storage	aquifer capacity	Aquifer/geology ranking
Dynamic structural characteristics	channel morphology complexity	length of natural shoreline	Water quantity
	dist. of connected floodplain	2yr or 10yr floods	100/500 Year Floodplain
	aquatic physical habitat	pool-riffle ratio	NONE
Sediment & material transport	sediment movement	sediment deposition	NONE
	particle size distribution	distribution of grain size	NONE
<b>NATURAL DISTURBANCE REGIMES</b>			
	frequency	recurrence interval	NONE
	intensity		NONE
	extent	spatial extent	NONE
	duration	length of event	NONE